

L Number	Hits	Search Text	DB	Time stamp
1	10	measure-h\$.in.	USPAT	2003/10/08 12:22
2	2	measure-h\$.in.	US-PGPUB	2003/10/08 12:22
3	2	measure-r\$.in.	US-PGPUB	2003/10/08 12:29
4	3	cbp112 or cbp adj "112"	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/08 12:30
5	68	streptococc\$ and ((cbp112 or cbp adj "112") or (cpbA or cpb adj "a") or (spsa or sps adj "a") or (pspc or psp adj c))	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/08 12:30
6	68	streptococc\$ and ((cbp112 or cbp adj "112") or (cpbA or cpb adj "a") or (spsa or sps adj "a") or (pspc or psp adj c))	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/08 12:35
7	68	streptococc\$ and ((cbp112 or cbp adj "112") or (cpbA or cpb adj "a") or (spsa or sps adj "a") or (pspc or psp adj c))	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/08 12:35
8	71	streptococc\$ and (pbca or hic)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/08 12:35
-	31	FORMAT ADJ SAVE	USPAT	2002/03/20 14:34
-	5	9709994.did.	DERWENT	2002/12/17 11:10
-	0	6500613.did.	DERWENT	2002/12/17 11:10
-	0	6500613.pn.	DERWENT	2002/12/17 11:11
-	0	6500613.pn.	USPAT	2002/12/17 11:24
-	10	measure-h\$.in.	USPAT	2003/10/08 12:16
-	0	measure-h\$.in.	US-PGPUB	2003/10/08 12:16
-	1	measure-r\$.in.	US-PGPUB	2003/10/08 12:16
-	1	cbp112 or cbp adj "112"	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/08 12:16
-	579	cpbA or cpb adj "a"	USPAT; US-PGPUB; EPO; JPO; DERWENT	2002/12/17 11:29
-	73	spsa or sps adj "a"	USPAT; US-PGPUB; EPO; JPO; DERWENT	2002/12/17 11:30
-	106	pspc or psp adj c	USPAT; US-PGPUB; EPO; JPO; DERWENT	2002/12/17 11:31
-	48	streptococc\$ and ((cbp112 or cbp adj "112") or (cpbA or cpb adj "a") or (spsa or sps adj "a") or (pspc or psp adj c))	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/08 12:17
-	51	streptococc\$ and ((cbp112 or cbp adj "112") or (cpbA or cpb adj "a") or (spsa or sps adj "a") or (pspc or psp adj c))	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/08 12:17
-	53	streptococc\$ and ((cbp112 or cbp adj "112") or (cpbA or cpb adj "a") or (spsa or sps adj "a") or (pspc or psp adj c))	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/08 12:18
-	43	streptococc\$ and (pbca or hic)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/08 12:18

EAST - [09829382.wsp:1]

File View Edit Tools Window Help

Search Limit Browse Queue Clear

DBs USPAT

Default operator: OR

☐ Plurals

☒ Highlight all hit terms initially

Drafts

- BRS:
- BRS: 1 and 2

Pending

Active

- L1: (5) 9709994.did.
- L2: (0) 6500613.did.
- L3: (0) 6500613.pn.
- L4: (0) 6500613.pn.
- L5: (10) masure-h\$.in.
- L6: (0) masure-h\$.in.
- L7: (1) masure-r\$.in.
- L8: (1) cbp112 or cbp adj "112"
- L9: (579) cpbA or cpb adj "a"
- L10: (73) spsa or sps adj "a"
- L11: (106) pspc or psp adj c
- L12: (48) streptococc\$ and (8 or 9 or 10 or 11)

Failed

Saved

Favorites

Tagged (15)

UDC

Queue

Trash

BRS ... IS6 ... Image Text HTML

	Type	L #	Hits	Search Text	DBs	Time Stamp	Co
1	BRS	L1	5	9709994.did.	DERWENT	2002/12/17 11:10	
2	BRS	L2	0	6500613.did.	DERWENT	2002/12/17 11:10	
3	BRS	L3	0	6500613.pn.	DERWENT	2002/12/17 11:11	
4	BRS	L4	0	6500613.pn.	USPAT	2002/12/17 11:24	
5	BRS	L5	10	masure-h\$.in.	USPAT	2002/12/17 11:26	
6	BRS	L6	0	masure-h\$.in.	US-PGPUB	2002/12/17 11:26	
7	BRS	L7	1	masure-r\$.in.	US-PGPUB	2002/12/17 11:27	
8	BRS	L8	1	cbp112 or cbp adj "112"	USPAT; US-PGPUB; EPO; JPO; DERWENT	2002/12/17 11:27	
9	BRS	L9	579	cpbA or cpb adj "a"	USPAT; US-PGPUB; EPO; JPO; DERWENT	2002/12/17 11:29	
10	BRS	L10	73	spsa or sps adj "a"	USPAT; US-PGPUB; EPO; JPO; DERWENT	2002/12/17 11:30	
11	BRS	L11	106	pspc or psp adj c	USPAT; US-PGPUB; EPO; JPO; DERWENT	2002/12/17 11:31	
12	BRS	L12	48	streptococc\$ and (8 or 9 or 10 or 11)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2002/12/17 11:31	

EAST - [09829382.wsp:1]

File View Edit Tools Window Help

Search List Browse Queue Clear

DBs USPAT

Default operator: OR

☐ Plurals

☒ Highlight all hit terms initially

Drafts

- BRS:
- BRS: 1 and 2

Pending

Active

- L1: (51) streptococc\$ and ((cbp112 or cbp adj "1

Failed

Saved

- (31) FORMAT ADJ SAVE
- (5) 9709994.did.
- (0) 6500613.did.
- (0) 6500613.pn.
- (0) 6500613.pn.
- (10) ma\$ure-h\$.in.
- (0) masure-h\$.in.
- (1) masure-r\$.in.
- (1) cbp112 or cbp adj "112"
- (579) cpbA or cpb adj "a"
- (73) spsa or sps adj "a"
- (106) pspc or psp adj c
- (48) streptococc\$ and ((cbp112 or cbp adj "112"

Favorites

Tagged (16)

UDC

Queue

Trash

BRS ... IS\$... Image Text HTML

	Type	L #	Hits	Search Text	DBs	Time Stamp	Comments
1	BRS	L1	51	streptococc\$ and ((cbp112 or cbp adj "112") or (cpbA or cpb adj "a") or (spsa or sps adj "a") or (pspc or psp adj c))	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/01/02 11:28	

EAST - [09829382.wsp:1]

File View Edit Tools Window Help

Search Edit Browse Queue Clear

DBs: USPAT

Default operator: OR

☐ Plurals

☒ Highlight all hit terms initially

Drafts

- BRS:
- BRS: 1 and 2

Pending

Active

- L11: (53) streptococc\$ and ((cbp112 or cbp adj

Failed

Saved

- (31) FORMAT ADJ SAVE
- (5) 9709994.did.
- (0) 6500613.did.
- (0) 6500613.pn.
- (0) 6500613.pn.
- (10) masure-h\$.in.
- (0) masure-h\$.in.
- (1) masure-r\$.in.
- (1) cbp112 or cbp adj "112"
- (579) cpbA or cpb adj "a"
- (73) spsa or sps adj "a"
- (106) pspc or psp adj c
- (48) streptococc\$ and ((cbp112 or cbp adj "112"
- (51) streptococc\$ and ((cbp112 or cbp adj "112"

Favorites

- Tagged (16)
- UDC
- Queue
- Trash

BRS ... IS\$... Image Text HTML

	Type	L #	Hits	Search Text	DBs	Time Stamp	Comments
1	BRS	L11	53	streptococc\$ and ((cbp112 or cbp adj "112") or (cpbA or cpb adj "a") or (spsa or sps adj "a") or (pspc or psp adj c))	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/02/04 14:33	

EAST - [09829382.wsp:1]

File View Edit Tools Window Help

Search Edit Browse Queue Clear

DBs USPAT

Default operator: OR

☐ Plurals

☒ Highlight all hit terms initially

Drafts

- BRS:
- BRS: 1 and 2

Pending

Active

- L11: (53) streptococc\$ and ((cbp112 or cbp adj "112") or (cpbA or cpb adj "a") or (spsa or sps adj "a") or (pspc or psp adj c))
- L16: (43) streptococc\$ and (pbca or hic)

Failed

Saved

- (31) FORMAT ADJ SAVE
- (5) 9709994.did.
- (0) 6500613.did.
- (0) 6500613.pn.
- (0) 6500613.pn.
- (10) masure-h\$.in.
- (0) masure-h\$.in.
- (1) masure-r\$.in.
- (1) cbp112 or cbp adj "112"
- (579) cpbA or cpb adj "a"
- (73) spsa or sps adj "a"
- (106) pspc or psp adj c
- (48) streptococc\$ and ((cbp112 or cbp adj "112") or (cpbA or cpb adj "a") or (spsa or sps adj "a") or (pspc or psp adj c))
- (51) streptococc\$ and ((cbp112 or cbp adj "112") or (cpbA or cpb adj "a") or (spsa or sps adj "a") or (pspc or psp adj c))

Favorites

Tagged (18)

UDC

Queue

Trash

BRS ... ISA ... Image Text HTML

	Type	L #	Hits	Search Text	DBs	Time Stamp	Comments
1	BRS	L11	53	streptococc\$ and ((cbp112 or cbp adj "112") or (cpbA or cpb adj "a") or (spsa or sps adj "a") or (pspc or psp adj c))	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/02/04 14:46	
2	BRS	L16	43	streptococc\$ and (pbca or hic)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/02/04 14:46	

RESULT 1

ID O33741 PRELIMINARY; PRT; 539 AA.
 AC O33741;
 DT 01-JAN-1998 (TREMBLREL. 05, CREATED)
 DT 01-JAN-1998 (TREMBLREL. 05, LAST SEQUENCE UPDATE)
 DT 01-JAN-1998 (TREMBLREL. 05, LAST ANNOTATION UPDATE)
 DE SPSA PROTEIN.
 OS STREPTOCOCCUS PNEUMONIAE.
 OC PROKARYOTA; FIRMICUTES; COCCI; STREPTOCOCCAEAE.
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN=TYPE 2;
 RA HAMMERSCHMIDT S., TALAY S.R., BRANDTZAEG P., CHHATWAL G.S.;
 RL MOL. MICROBIOL. 25:1113-1124(1997).
 DR EMBL; AJ002054; E354783; -.
 SQ SEQUENCE 539 AA; 61298 MW; 1171E068 CRC32;

QR74.M65
Adonis

Query Match 100.0%; Score 172; DB 9; Length 539;
 Best Local Similarity 100.0%; Pred. No. 9.64e-25;
 Matches 29; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 39 ENEGSTQAATSSNMAKTEHRKAAKQVVDE 67
 ||||||||||||||||||||||||||||||||
 QY 2 ENEGSTQAATSSNMAKTEHRKAAKQVVDE 30

RESULT 2

ID O33742 PRELIMINARY; PRT; 581 AA.
 AC O33742;
 DT 01-JAN-1998 (TREMBLREL. 05, CREATED)
 DT 01-JAN-1998 (TREMBLREL. 05, LAST SEQUENCE UPDATE)
 DT 01-JAN-1998 (TREMBLREL. 05, LAST ANNOTATION UPDATE)
 DE SPSA PROTEIN.
 OS STREPTOCOCCUS PNEUMONIAE.
 OC PROKARYOTA; FIRMICUTES; COCCI; STREPTOCOCCAEAE.
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN=TYPE 47;
 RA HAMMERSCHMIDT S., TALAY S.R., BRANDTZAEG P., CHHATWAL G.S.;
 RL MOL. MICROBIOL. 25:1113-1124(1997).
 DR EMBL; AJ002055; E354769; -.
 SQ SEQUENCE 581 AA; 65671 MW; BDC6F10E CRC32;

Sgt. 1997
Not prior

Query Match 100.0%; Score 172; DB 9; Length 581;
 Best Local Similarity 100.0%; Pred. No. 9.64e-25;
 Matches 29; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 39 ENEGSTQAATSSNMAKTEHRKAAKQVVDE 67
 ||||||||||||||||||||||||||||||||
 QY 2 ENEGSTQAATSSNMAKTEHRKAAKQVVDE 30

4/7/11

DIALOG(R) File 155:MEDLINE(R)

09610290 98010350 PMID: 9350867

SpsA, a novel pneumococcal surface protein with specific binding to secretory immunoglobulin A and secretory component.

Hammerschmidt S; Talay S R; Brandtzaeg P; Chhatwal G S

Department of Microbial Pathogenesis, GBF-National Research Centre for Biotechnology, Braunschweig, Germany.

Molecular microbiology (ENGLAND) Sep 1997, 25 (6) p1113-24, ISSN 0950-382X Journal Code: 8712028

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

The interaction of pathogenic bacteria with host serum and matrix proteins is a common strategy to enhance their virulence. *Streptococcus pneumoniae* colonizes the human upper respiratory tract in healthy individuals and is also able to cause invasive diseases. Here, we describe a novel pneumococcal surface protein, SpsA, capable of binding specifically to human secretory immunoglobulin A (SIgA). The dissociation constant of SIgA binding to SpsA was 9.3×10^{-9} M. Free secretory component (SC) also binds to *S. pneumoniae*, whereas serum IgA does not, suggesting that pneumococcal binding to SIgA is mediated by the SC. To our knowledge, this is the first defined interaction of SC with a prokaryotic protein. The *spsA* gene encodes a polypeptide of 523 amino acids with a predicted molecular mass of 59 151 Da. The SIgA- or SC-binding domain is located in the N-terminal part of SpsA and exhibits no significant homology to any other proteins. The purified SIgA-binding domain of SpsA could completely inhibit the binding of SIgA to pneumococci. SpsA was expressed by 73% of the tested *S. pneumoniae* isolates and was substantially conserved between different serotypes. The interaction between *S. pneumoniae* and SC via SpsA represents a novel biological interaction that might increase virulence by the impairment of bacterial clearance.

RESULT 3
 ID O30874 PRELIMINARY; PRT; 663 AA.
 AC O30874;
 DT 01-JAN-1998 (TREMBLREL. 05, CREATED)
 DT 01-JAN-1998 (TREMBLREL. 05, LAST SEQUENCE UPDATE)
 DT 01-JAN-1998 (TREMBLREL. 05, LAST ANNOTATION UPDATE)
 DE CHOLINE BINDING PROTEIN A (FRAGMENT).
 GN CBPA.
 OS STREPTOCOCCUS PNEUMONIAE.
 OC PROKARYOTA; FIRMICUTES; COCCI; STREPTOCOCCAEAE.
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN=R6X;
 RA ROSENOW C., RYAN P., WEISER J.N., JOHNSON S., FONTAN P., ORTQVIST A.,
 RA MASURE H.R.;
 RL MOL. MICROBIOL. 0:0-0(1997).
 DR EMBL; AF019904; G2425109; -.
 FT NON_TER 1 1
 SQ SEQUENCE 663 AA; 75064 MW; F3880B73 CRC32;

Query Match 100.0%; Score 172; DB 9; Length 663;
 Best Local Similarity 100.0%; Pred. No. 9.64e-25;
 Matches 29; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 1 ENEGSTQAATSSNMAKTEHRKAAKQVVDE 29
 QY 2 ENEGSTQAATSSNMAKTEHRKAAKQVVDE 30

Also ^{wo} 9709994

Also 6,500,613 (Issuing 12/31/02)

13151920 21888621 PMID: 11891047

Allelic variation in the highly polymorphic locus *pspC* of *Streptococcus pneumoniae*.

Iannelli Francesco; Oggioni Marco R; Pozzi Gianni

Laboratory of Molecular Microbiology and Biotechnology, Sezione di Microbiologia, Dipartimento di Biologia Molecolare, Universita di Siena, 53100, Siena, Italy.

Gene (Netherlands) Feb 6 2002, 284 (1-2) p63-71, ISSN 0378-1119

Journal Code: 7706761

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

PspC, also called *SpsA*, *CbpA*, *PbcA*, and *Hic*, is a surface protein of *Streptococcus pneumoniae* studied for its antigenic properties, its capability to bind secretory IgA, C3 and complement factor H, and its activity as an adhesin. In this work we characterized the *pspC* locus of 43 pneumococcal strains by DNA sequencing of PCR fragments. Using PCR primers designed on two unrelated open reading frames, flanking the *pspC* locus, it was possible to amplify the *pspC* locus of each of the 43 strains of *S. pneumoniae*. In 37 out of 43 strains there was a single copy of the *pspC* gene, while two tandem copies of *pspC* were found in the other six strains. The sequence of the *pspC* locus was different in each of the 43 strains. Insertion sequences were found in the *pspC* locus of 11 out of 43 strains. Analysis of the deduced amino acid sequence of the *PspC* variants showed a common organization of the molecules: (i) a 37 amino acid leader peptide which is conserved in all proteins, (ii) an N-terminal portion which is essentially alpha-helical, and is the result of assembly of eight major sequence blocks, (iii) a proline-rich region, and (iv) a C-terminal anchor responsible for the cell surface attachment. By sequence comparison we identified 11 major groups of *PspC* proteins. Proteins within one group displayed only minor variations of the amino acid sequence. An unexpected finding was that *PspC* variants could differ in the anchor sequence. While 32 of the *PspC* proteins displayed the typical choline binding domain of pneumococcal surface proteins, 17 other *PspCs* showed the LPXTG motif, which is typical of surface proteins of other gram-positive bacteria. This major difference in the anchor region was also observed in the adjacent proline-rich regions which differed considerably in size and composition.

Record Date Created: 20020313